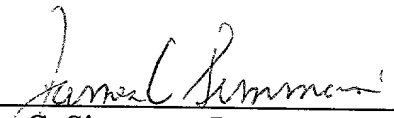


REMARKS

Applicants respectfully submit the above-identified application, as amended, is in condition for allowance and a notice to that effect is earnestly solicited.

Respectfully Submitted,

RATNER & PRESTIA


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Dated: March 30, 2001

Enclosures: Amended Abstract

Version with markings to show changes made

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Kathleen Libby

ABSTRACT

A method and apparatus for concentrating organic aqueous solutions, especially spissum extracts. The apparatus is a vacuum distillation plant uses a flash evaporation vapour concentration and a multi-stage condenser positioned downstream of the vapour concentration, with recycling at least part of the condensate from a condensation stage into the bottoms product being provided.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

1 3. (Amended) A vacuum distillation plant according to
2 claim 1 [or 2], wherein the condenser is positioned in such way that the
3 bottoms product serves as a heat carrier liquid for the condenser before being
4 recycled to the evaporator.

1 4. (Amended) A vacuum distillation plant according to [any
2 of the] claim[s] 1 [to 3] wherein two to four condensation stages are provided
3 with a rectification interposed between each of said condensation stages.

1 5. (Amended) A vacuum distillation plant according to [any
2 of the] claim[s] 1 [to 4], wherein all or part of the condensate of the last
3 condensation stage is recycled to the evaporator.

1 7. (Amended) A vacuum distillation plant according to [any
2 of the] claim[s] 1 [to 6] wherein the condensate is fed into the evaporator above
3 the liquid level of the bottoms product.

1 8. (Amended) A vacuum distillation plant according to [any
2 of the] claim[s] 1 [to 6] wherein the condensate is introduced into and mixed
3 with the bottoms product and the mixture is introduced into the evaporator.

1 9. (Amended) A vacuum distillation plant according to [any
2 of the] claim[s] 1 [to 8], additionally comprising means for actively directing
3 the bottoms product through the condenser.

[illegible]

1 11. (Amended) A vacuum distillation plant according to [any
2 of the] claim[s] 1 [to 10] comprising a pre-vacuum pump in addition to the
3 concentration means.

1 13. (Amended) A vacuum distillation plant according to [any
2 of the] claim[s] 1 [to 12], comprising a means on the distillate side for
3 depositing solid and/or liquid components entrained by the overhead product
4 during flash evaporation.

1 16. (Amended) A process according to claim 14 [or 15],
2 wherein two condensation steps are carried out in step c) starting from binary
3 solutions and wherein at least part of the condensate of the second stage is
4 recycled to the bottoms product.

1 17. (Amended) A process according to [any of the] claim[s]
2 14 [and 16], wherein the condensate is recycled in such an amount that the
3 water/alcohol ratio of the solution in the bottoms product remains constant.

1 18. (Amended) A process according to [any of the] claim[s]
2 14 [to 17], wherein the bottoms product is distilled by flash evaporation.

1 19. (Amended) A process according to [any of the] claim[s]
2 14 [to 18 for] including the steps of concentrating aqueous ethanolic plant drug
3 extracts having an ethanol content of at least 20 vol.-%[, preferably 30 to 70
4 vol.-%].

1 Claim 20 has been cancelled

1 Claim 21 has been cancelled

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1 22. (Newly Added) A vacuum distillation plant according to
2 claim 2, wherein the condenser is positioned in such way that the bottoms
3 product serves as a heat carrier liquid for the condenser before being recycled
4 to the evaporator.

1 23. (Newly Added) A vacuum distillation plant according to
2 claim 2, wherein two to four condensation stages are provided with a
3 rectification interposed between each of said condensation stages.

1 24. (Newly Added) A vacuum distillation plant according to
2 claim 3, wherein two to four condensation stages are provided with a
3 rectification interposed between each of said condensation stages.

1 25. (Newly Added) A vacuum distillation plant according to
2 claim 2, wherein all or part of the condensate of the last condensation stage is
3 recycled to the evaporator.

1 26. (Newly Added) A vacuum distillation plant according to
2 claim 3, wherein all or part of the condensate of the last condensation stage is
3 recycled to the evaporator.

1 27. (Newly Added) A vacuum distillation plant according to
2 claim 4, wherein all or part of the condensate of the last condensation stage is
3 recycled to the evaporator.

1 28. (Newly Added) A vacuum distillation plant according to
2 claim 2, wherein the condensate is fed into the evaporator above the liquid
3 level of the bottoms product.

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1 29. (Newly Added) A vacuum distillation plant according to
2 claim 3, wherein the condensate is fed into the evaporator above the liquid
3 level of the bottom product.

1 30. (Newly Added) A vacuum distillation plant according to
2 claim 4, wherein the condensate is fed into the evaporator above the liquid
3 level of the bottoms product.

1 31. (Newly Added) A vacuum distillation plant according to
2 claim 5, wherein the condensate is fed into the evaporator above the liquid
3 level of the bottoms product.

1 32. (Newly Added) A vacuum distillation plant according to
2 claim 6, wherein the condensate is fed into the evaporator above the liquid
3 level of the bottoms product.

1 33. (Newly Added) A vacuum distillation plant according to
2 claim 2, wherein the condensate is introduced into and mixed with the bottoms
3 product and the mixture is introduced into the evaporator.

1 34. (Newly Added) A vacuum distillation plant according to
2 claim 3, wherein the condensate is introduced into and mixed with the bottoms
3 product and the mixture is introduced into the evaporator.

1 35. (Newly Added) A vacuum distillation plant according to
2 claim 4, wherein the condensate is introduced into and mixed with the bottoms
3 product and the mixture is introduced into the evaporator.

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1 43. (Newly Added) A process according to claim 16, wherein
2 the bottoms product is distilled by flash evaporation.

1 44. (Newly Added) A process according to claim 17, wherein
2 the bottoms product is distilled by flash evaporation.

1 45. (Newly Added) A process according to claim 15,
2 including the steps of concentrating aqueous ethanolic plant drug extracts
3 having an ethanol content of at least 20 vol.-%.

1 46. (Newly Added) A process according to claim 16,
2 including the steps of concentrating aqueous ethanolic plant drug extracts
3 having an ethanol content of at least 20 vol.-%.

1 47. (Newly Added) A process according to claim 17,
2 including the steps of concentrating aqueous ethanolic plant drug extracts
3 having an ethanol content of at least 20 vol.-%.

1 48. (Newly Added) A process according to claim 18,
2 including the steps of concentrating aqueous ethanolic plant drug extracts
3 having an ethanol content of at least 20 vol.-%.

1 49. (Newly Added) A process according to claim 14,
2 including the step of concentrating aqueous ethanolic plant drug extracts
3 having an ethanol content of from 30 to 70 vol.-%.

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~~The present invention relates to a vacuum distillation plant and process~~A method and apparatus for concentrating organic aqueous solutions, especially spissum extracts,~~using said plant.~~ The apparatus is a vacuum distillation plant ~~of the invention comprises~~ uses a flash evaporator~~evaporation, a means for~~ vapour concentration and a multi-stage condenser positioned downstream of ~~said means for the~~ vapour concentration, ~~means for~~ with recycling at least part of the condensate from a condensation stage into the bottoms product being provided. ~~In addition, the present invention relates to a process for concentrating organic aqueous solutions such as concentrated extracts using said plant.~~